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IS 6928 (2001): Freight Containers - Coding, Identification and Marking [TED 12: Freight Containers and Pallets]



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भारतीय मानक
मालधारक — कोडीकरण, पहचान और मुहराँकन
(तीसरा पुनरीक्षण)

Indian Standard
FREIGHT CONTAINERS — CODING, IDENTIFICATION
AND MARKING
(*Third Revision*)

ICS 55.180.10

9

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

NATIONAL FOREWORD

This Indian Standard (Third Revision) which is identical with ISO 6346:1995 'Freight containers — Coding, identification and marking' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendations of Freight Containers and Pallets Sectional Committee and approval of the Transport Engineering Division Council.

The text of ISO Standard has been approved for publication as Indian Standard without deviations. Certain terminology and conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice to use a full point (.) as the decimal marker.

In the adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards which are to be substituted in their place are listed below along with their degree of equivalence for the editions indicated:

| <i>International Standard</i> | <i>Corresponding Indian Standard</i> | <i>Degree of Equivalence</i> |
|-------------------------------|--|------------------------------|
| ISO 668 : 1995 | IS 6566 : 2001 Series 1 freight containers — Classification, dimensions and ratings (<i>third revision</i>) | Identical |
| ISO 1496 - 1 : 1990 | IS 13288 (Part 1) : 1993 Series 1 freight containers — Specification and testing: Part 1 General cargo containers for general purposes | do |
| ISO 1496 - 2 : 1996 | IS 13288 (Part 2) : 2001 Series 1 freight containers — Specification and testing: Part 2 Thermal containers (<i>first revision</i>) | do |
| ISO 1496 - 3 : 1995 | IS 13288 (Part 3) : 2001 Series 1 freight containers — Specification and testing: Part 3 Tank containers for liquids, gases and pressurized dry bulk (<i>first revision</i>) | do |
| ISO 1496 - 4 : 1991 | IS 13288 (Part 4) : 1993 Series 1 freight containers — Specification and testing: Part 4 Non-pressurized containers for dry bulk | do |
| ISO 1496 - 5 : 1991 | IS 13288 (Part 5) : 2001 Series 1 freight containers — Specification and testing: Part 5 Platform and platform-based containers (<i>first revision</i>) | do |

(Continued on third cover)

Indian Standard

**FREIGHT CONTAINERS — CODING, IDENTIFICATION
AND MARKING**

(Third Revision)

1 Scope

1.1 This International Standard provides a system for the identification and presentation of information about freight containers. The identification system is intended for general application, for example in documentation, control and communications (including automatic data processing systems), as well as for display on the containers themselves.

The methods of displaying identification and certain other data (including operational data) on containers by means of permanent marks are included.

1.2 This International Standard specifies:

- a) a container identification system, with an associated system for verifying the accuracy of its use, having:
 - mandatory marks for the presentation of the identification system for visual interpretation, and
 - features to be used in optional Automatic Equipment Identification (AEI) and electronic data interchange (EDI);
- b) a coding system for data on container size and type, with corresponding marks for their display;
- c) operational marks, both mandatory and optional;
- d) physical presentation of marks on the container.

1.3 The terms “mandatory” and “optional” in this International Standard are used to differentiate those ISO marking provisions which shall necessarily be fulfilled by all containers from those which are not required of all containers. The optional marks are in-

cluded to further comprehension and promote uniform application of the optional mark. If a choice has been made to display an optional mark, the provisions laid down in this International Standard relating to the mark shall be applied. The terms “mandatory” and “optional” do not refer to requirements of any regulatory body.

1.4 This International Standard applies to all freight containers covered by International Standards ISO 668, parts 1 to 5 of ISO 1496, ISO 8323 and should, wherever appropriate and practicable, be applied:

- to containers other than those covered by the International Standards mentioned in clause 2;
- to container-related and/or detachable equipment.

NOTE 1 Containers marked according to previous editions of ISO 6346 need not be re-marked.

1.5 This International Standard does not cover temporary operational marks of any kind, permanent marks, data plates, etc. which may be required by intergovernmental agreements, national legislation or nongovernmental organizations other than ISO.

NOTE 2 Some of the major international conventions whose container-marking requirements are not covered in this International Standard are as follows:

- *International Convention for Safe Containers (UN/IMO 1992);*
- *Customs Convention on Containers 1956 and 1972;*
- *Customs Convention on International Movement of Goods under Cover of TIR Carnets (TIR Convention) 1959 and 1975.*

It should not be assumed that this list is exhaustive.

This International Standard does not cover the display of technical data on tank containers (see ISO 1496-3), nor does it, in any way, include identification marks or safety signs for items of cargo which may be carried in freight containers.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 668:—¹⁾, *Series 1 freight containers — Classification, dimensions and ratings.*

ISO 1496-1:1990, *Series 1 freight containers — Specification and testing — Part 1: General cargo containers for general purposes.*

ISO 1496-2:—²⁾, *Series 1 freight containers — Specification and testing — Part 2: Thermal containers.*

ISO 1496-3:1995, *Series 1 freight containers — Specification and testing — Part 3: Tank containers for liquids, gases and pressurized dry bulk.*

ISO 1496-4:1991, *Series 1 freight containers — Specification and testing — Part 4: Non-pressurized containers for dry bulk.*

ISO 1496-5:1991, *Series 1 freight containers — Specification and testing — Part 5: Platform and platform-based containers.*

ISO 8323:1985, *Freight containers — Air/surface (intermodal) general purpose containers — Specification and tests.*

ISO 10374:1991, *Freight containers — Automatic identification.*

3 Identification system and its associated marks

3.1 Identification system

The identification system shall consist only of the following elements, all of which shall be included:

- owner code: three letters;
- equipment category identifier: one letter;
- serial number: six numerals;
- check digit: one numeral.

3.1.1 Owner code

The container owner's code shall consist of three capital letters, shall be unique and shall be registered with the International Container Bureau (BIC — Bureau International des Conteneurs), either through an affiliated national registration organization (see annex G) or directly with:

Bureau International des Conteneurs
167, rue de Courcelles
75017 Paris
FRANCE

3.1.2 Equipment category identifier

The equipment category identifier consists of one capital letter of the Latin alphabet as follows:

- U for all freight containers;
- J for detachable freight container-related equipment;
- Z for trailers and chassis.

3.1.3 Serial number

The container serial number shall consist of six Arabic numerals. If the series of significant numerals does not total six, they shall be preceded by sufficient zeroes to make up six numerals. (For example, if the series of significant numerals is 1234, the serial number is 001234.)

1) To be published. (Revision of ISO 668:1988)

2) To be published. (Revision of ISO 1496-2:1988)

3.1.4 Check digit

The check digit provides a means of validating the transmission accuracy of the owner code and serial number and shall be determined as in annex A. The check digit shall validate the owner code, equipment category identifier and serial number of the container.

3.2 Identification marks

The use of marks in accordance with the identification system specified in 3.1, i.e. owner code, equipment category identifier, serial number and check digit, is mandatory for freight containers and recommended for all equipment as stated in 3.1.2. The characteristics (size, shape, layout, etc.) detailed in 6.1 and 6.2.1 shall be displayed as nearly as practicable in accordance with clause 6, i.e. legible to the human eye.

4 Size and type codes and their associated marks

4.1 Purpose

The type and main external dimensions of the container shall be identified with codes marked on the container. Only those freight containers which comply with both the ISO top-handling capability and structural stacking requirements set forth in ISO 1496 shall be marked with size and type codes in accordance with 4.2.1 and 4.2.2.

4.2 Size and type codes

This information is mandatory for the marking of containers covered by the International Standards listed in clause 2 and shall be coded as in 4.2.1 and 4.2.2.

The size and type codes, when displayed on the container, shall be used as a whole, i.e. the information must not be broken into its component parts.

The size and type codes shall be displayed in accordance with clause 6.

4.2.1 Size: two alphanumeric characters

The container size (i.e. external dimensions) shall be indicated by two characters as follows:

- First character: numeric or alphabetic character representing the length.

- Second character: numeric or alphabetic character representing the width and the height.

These two characters shall be determined in accordance with annex D.

4.2.2 Type: two characters

The container type and main characteristics shall be indicated by two characters as follows:

- First character: alphabetic character representing the container type.
- Second character: numeric character representing main characteristics related to the container type.

These two characters shall be selected in accordance with annex E.

NOTE 3 For the purpose of exchanging data when indication of the main characteristics is not essential, the "type group code designation" as shown in annex E can be used.

5 Operational marks

The marks in this section are not intended to correspond to any particular code (e.g. for use in data transmission or any other purpose). They are solely intended as markings for use on freight containers to convey certain information or give visual warnings.

5.1 Mandatory operational marks

5.1.1 Maximum gross and tare masses

The maximum gross and tare masses shall be marked on a container as:

| | |
|-----------|------------------------|
| MAX GROSS | 00 000 kg 00 000 lb |
| TARE | 00 000 kg 00 000 lb |

For safety reasons, containers tested in compliance with the approved methods specified in that part of ISO 1496 applicable to the type of container in question, i.e. parts 1, 2, 3, 4 or 5 of ISO 1496, shall be uniformly marked with the maximum gross mass used for those tests.

Furthermore, the "maximum gross mass" marked on the container in accordance with this International Standard shall be identical to that shown on the CSC³⁾ Safety Approval Plate.

3) International Convention for Safe Containers (CSC), UN/IMO.

As indicated above, the masses shall be expressed in both kilograms (kg) and pounds (lb)⁴⁾.

5.1.2 Air/surface container symbol

All air/surface containers shall display the symbol specified in annex B.

5.1.3 Warning sign of overhead electrical danger

All containers equipped with ladders shall display a warning sign in accordance with the details given in annex C.

5.1.4 Height mark for containers higher than 2,6 m (8 ft 6 in)

All containers higher than 2,6 m (8 ft 6 in) shall bear the following mandatory marks:

- a) on both sides, a height mark similar to that described in annex F;
- b) an area of alternating black and yellow stripes on the top members of each end frame and side wall at each corner adjacent to the corner fitting, of 300 mm (12 in) minimum length, that can be seen from the ground or from the top (see figure 5).

In addition, any other optional marks, such as a mirror image of the mark described in annex F, may be displayed at any convenient location (e.g. front wall).

5.2 Optional operational mark (maximum net mass)

It is common industry practice to mark containers with maximum payload, or net mass, in addition to maximum gross and tare masses.

If used, the maximum net mass should be marked on a container in accordance with the requirements of 5.1.1, positioned after the maximum gross and tare masses as follows:

| | |
|-----------|------------------------|
| MAX GROSS | 00 000 kg 00 000 lb |
| TARE | 00 000 kg 00 000 lb |
| NET | 00 000 kg 00 000 lb |

⁴⁾ 1 kg = 2,204 6 lb

6 Physical display of marks

6.1 Size and colour of marks

The letters and numerals of the owner code, equipment category identifier, serial number and check digit shall be not less than 100 mm (4 in) high.

The letters and numerals for MAX GROSS and TARE shall be not less than 50 mm (2 in) high.

All characters shall be of proportionate width and thickness, they shall be durable and in a colour contrasting with that of the container.

6.2 Layout and location of marks

The requirements of this clause are particularly applicable to containers of the "closed box" type. For containers of other types, all possible practicable steps should be taken to follow the marking layout and location given for the "closed box" type of container.

6.2.1 Layout of marks

6.2.1.1 Mandatory identification marks

The layout of the owner code, equipment category identifier, serial number and check digit on containers shall preferably be in one single horizontal line (see figure 1). Where constructional features of the container dictate otherwise, the layout may be vertical (see figure 2).

The layout of size and type codes should, as far as practicable, be in a single horizontal line underneath the horizontal line giving the owner code, equipment category identifier, serial number and check digit (see figure 1).

When the owner code, equipment category identifier, serial number and check digit are displayed vertically, the size and type codes should be placed adjacent to the other mandatory marks (see figures 2 and 3).

If, on some special-purpose containers, a fully horizontal or fully vertical layout is not possible, the layout of the other mandatory identification marks shall be maintained in the horizontal or vertical groupings as specified below (see figures 3 and 4).

On those special-purpose containers where a fully horizontal or fully vertical layout is not possible and

the layout of the other mandatory identification marks is horizontal, the size and type codes should be placed beneath the other mandatory marks (see figure 4).

The size and type codes should be used as a whole (see 4.2).

The owner code and equipment category identifier shall be joined and shall be separated from the serial number by at least one character space. The serial number shall be separated from the check digit by

one character space and the check digit shall be displayed in a box.

• EXAMPLE

A general purpose container in accordance with ISO 1496, having passive vents at the upper part of the cargo space, a length of 6 068 mm, a width of 2 438 mm, a height of 2 591 mm, having a unique registered owner code of ABZ, an equipment category identifier of U and a serial number of 001234 will have the layout as shown in figures 1 to 4.

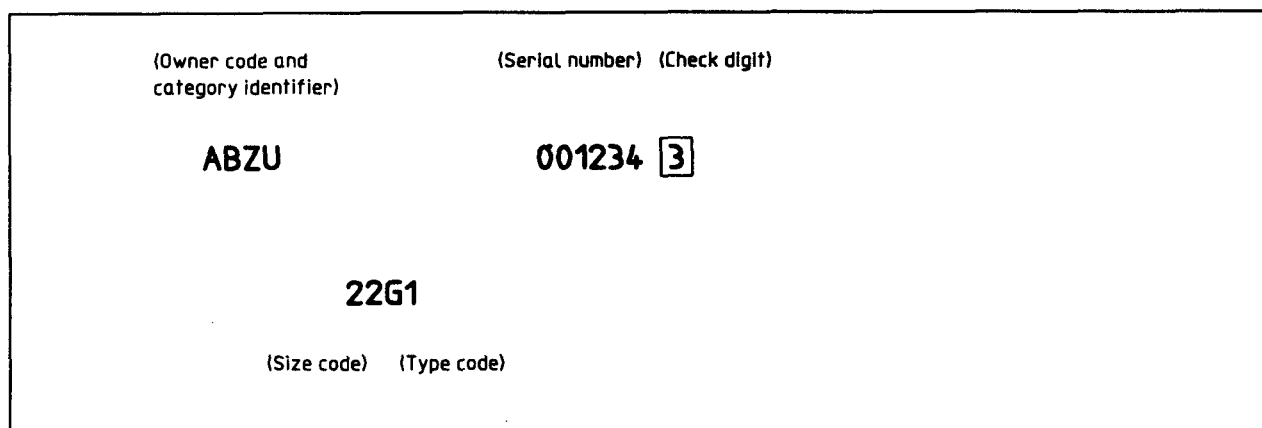


Figure 1 — Mandatory identification marks — Preferred horizontal layout

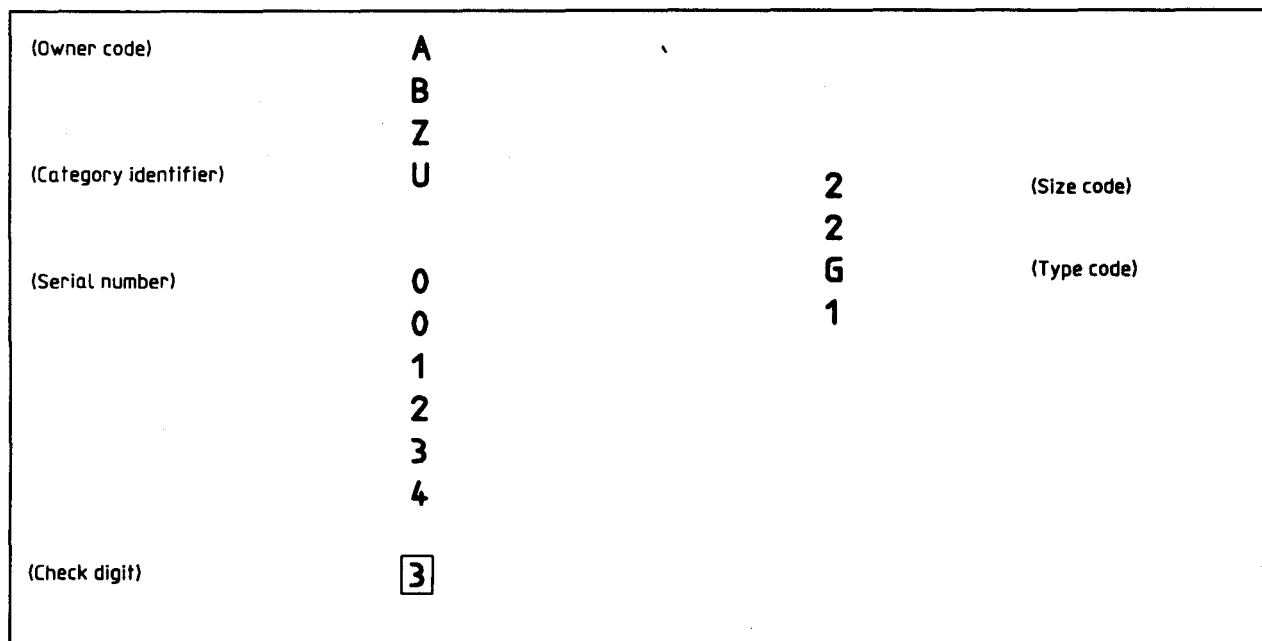


Figure 2 — Mandatory identification marks — Preferred vertical layout

| | | | | |
|-----------------------|---|--------------|---|-------------|
| (Serial number) | | | | |
| (Owner code) | A | 0 | 2 | (Size code) |
| | B | 0 | 2 | |
| | Z | 1 | G | (Type code) |
| (Category identifier) | U | 2 | 1 | |
| | | 3 | | |
| | | 4 | | |
| (Check digit) | | <div>3</div> | | |

Figure 3 — Mandatory identification marks — Alternative (multiple column) vertical layout

| | |
|--------------------------------------|------------|
| (Owner code and category identifier) | ABZU |
| (Serial number) | 001 234 |
| (Check digit) | 3 |
| (Size and type codes) | 22G1 |

Figure 4 — Mandatory identification marks — Alternative horizontal grouping layout

6.2.1.2 Mandatory operational marks

The layout of maximum gross and tare masses shall be as stated in 5.1.1.

The layout of the air/surface container symbol shall be as shown in annex B.

The layout of the sign warning of overhead electrical danger shall be as shown in annex C.

The layout of the height mark for containers having a height greater than 2,6 m shall be as stated in annex F.

6.2.1.3 Optional operational mark (maximum net mass)

Where marked, the layout of net mass shall be as stated in 5.1.1.

6.2.2 Location of marks

6.2.2.1 Mandatory identification marks

The mandatory marks of 3.1 and 4.2, i.e. owner code, equipment category identifier, serial number, check digit, and size and type codes, shall be positioned on the container as far as practicable as shown in figure 5.

6.2.2.2 Operational marks

The mandatory operational marks of 5.1.1, i.e. maximum gross and tare masses, shall be positioned on the container as far as practicable as shown in figure 5.

The location of the air/surface container symbol shall be as given in annex B.

The location of the symbol warning of overhead electrical danger shall be as given in annex C.

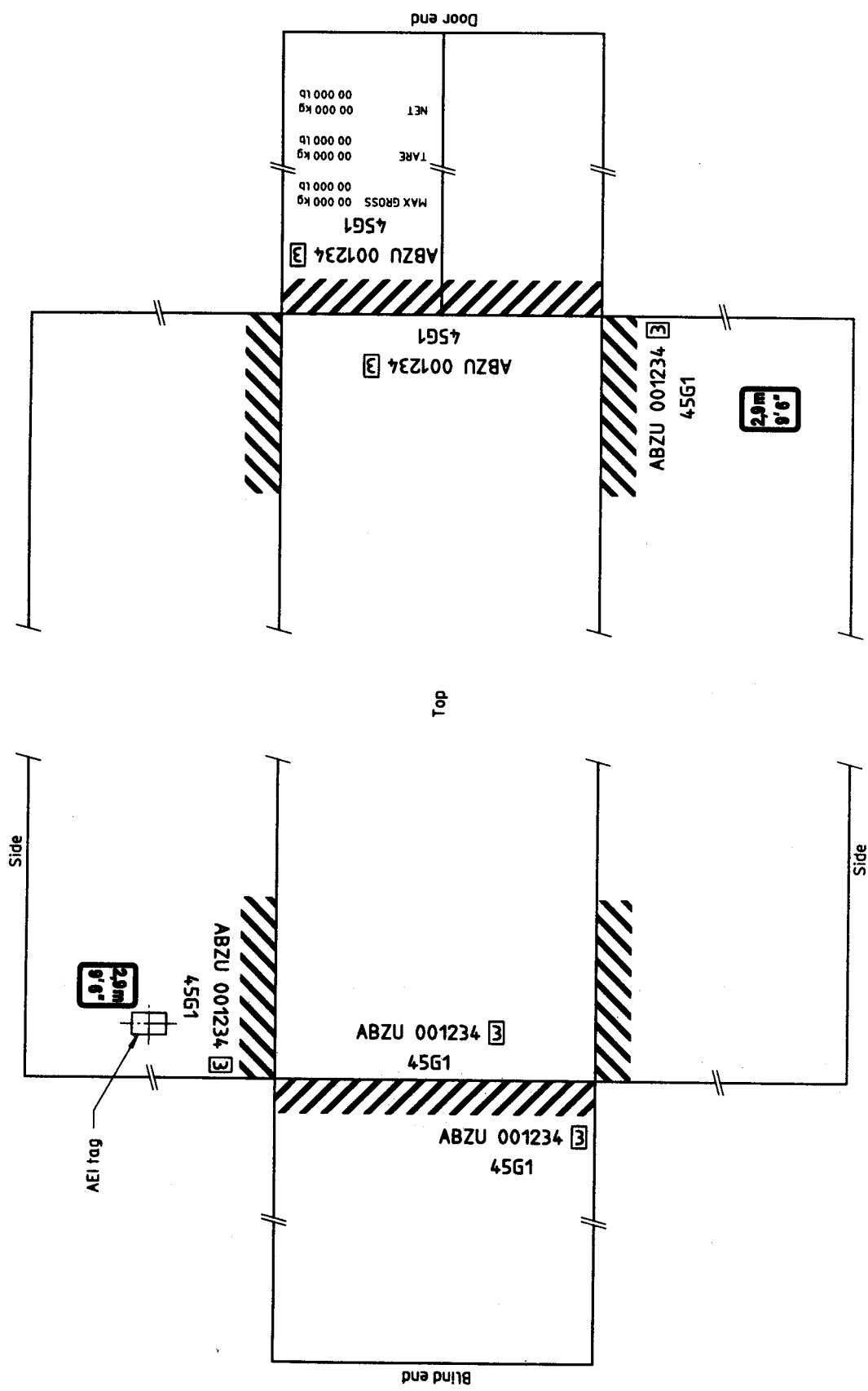
The location of the height warning symbol shall be as given in annex F.

The optional operational mark of 5.2, i.e. maximum payload or net mass, shall be positioned on the container as far as practicable as shown in figure 5.

6.2.2.3 Other marks and devices

Marks other than those stipulated by this International Standard shall be displayed on the container so that they do not in any way interfere with the marks described in this International Standard.

For the Automatic Equipment Identification (AEI) system, the AEI tag shall be positioned on the container as specified in ISO 10374.



NOTES

- 1 Black and yellow stripes adjacent to the corner fittings may be reduced to a length of 300 mm (12 in) min.
- 2 Size and type markings on the roof and on the front end (blind end) are optional.
- 3 Mounting of AEI tag is optional.
- 4 "NET" marking is optional.

Figure 5 — Location of mandatory and optional marks

Annex A
(normative)

Determination of check digit

The check digit of a container identification system is determined by following the procedure outlined in A.1 to A.4. A sample calculation is presented in A.5.

A.1 Numerical equivalents of container owner code, category identifier and serial number

Each letter of the owner code, the equipment category identifier and each numeral of the serial number shall be consecutively allocated a numerical value in accordance with table A.1.

A.2 Weighting factor

Each numerical equivalent, determined in accordance with A.1, shall be multiplied by a weighting factor in the range 2^0 to 2^9 . The weighting factor 2^0 is applied to the first letter of the owner code, and then in increasing powers of 2, rising to 2^9 for the last digit of the serial number.

A.3 Modulus

The sum of the products obtained according to A.2 shall be divided by a modulus of value eleven.

Table A.1 — Equivalent values

| Owner code/category identifier | | | | Serial number |
|--|------------------|--------|------------------|---|
| Letter | Equivalent value | Letter | Equivalent value | Numeral or equivalent value ¹⁾ |
| A | 10 | N | 25 | 0 |
| B | 12 | O | 26 | 1 |
| C | 13 | P | 27 | 2 |
| D | 14 | Q | 28 | 3 |
| E | 15 | R | 29 | 4 |
| F | 16 | S | 30 | 5 |
| G | 17 | T | 31 | 6 |
| H | 18 | U | 32 | 7 |
| I | 19 | V | 34 | 8 |
| J | 20 | W | 35 | 9 |
| K | 21 | X | 36 | |
| L | 23 | Y | 37 | |
| M | 24 | Z | 38 | |
| NOTE — The equivalent values 11, 22 and 33 are omitted as they are multiples of the modulus (see A.3). | | | | |
| 1) The serial number and its equivalent value are identical. | | | | |

A.4 Value of check digit

Table A.2 indicates the check digit value corresponding to the remainder value of the division effected in conformity with A.3 .

Table A.2 — Check digit value

| Remainder | Check digit |
|-----------|-------------|
| 10 | 0 |
| 9 | 9 |
| 8 | 8 |
| 7 | 7 |
| 6 | 6 |
| 5 | 5 |
| 4 | 4 |
| 3 | 3 |
| 2 | 2 |
| 1 | 1 |
| 0 | 0 |

NOTE — Where it is required to avoid the duplication resulting from the value zero being assigned as a remainder of both 10 and 0, it is recommended that serial numbers resulting in remainders of 10 should not be used.

A.5 Sample calculation of the check digit

Stage

Calculation

I Owner code:

Serial number:

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Z | E | P | U | 0 | 0 | 3 | 7 | 2 | 5 |
|---|---|---|---|---|---|---|---|---|---|

II Equivalent factors:

| | | | | | | | | | |
|----|----|----|----|---|---|---|---|---|---|
| 38 | 15 | 27 | 32 | 0 | 0 | 3 | 7 | 2 | 5 |
|----|----|----|----|---|---|---|---|---|---|

III Weighting factors:

| | | | | | | | | | |
|---|---|---|---|----|----|----|-----|-----|-----|
| 1 | 2 | 4 | 8 | 16 | 32 | 64 | 128 | 256 | 512 |
|---|---|---|---|----|----|----|-----|-----|-----|

IV Product of columns in lines II and III:

| | | | | | | | | | |
|----|----|-----|-----|---|---|-----|-----|-----|-------|
| 38 | 30 | 108 | 256 | 0 | 0 | 192 | 896 | 512 | 2 560 |
|----|----|-----|-----|---|---|-----|-----|-----|-------|

The sum of all the products in line IV = 4 592

The sum divided by the modulus 11 = $417 \frac{5}{11}$.

The remainder is 5 and, by referring to table A.2, it is found that the check digit is 5 in this case.

Annex B
(normative)

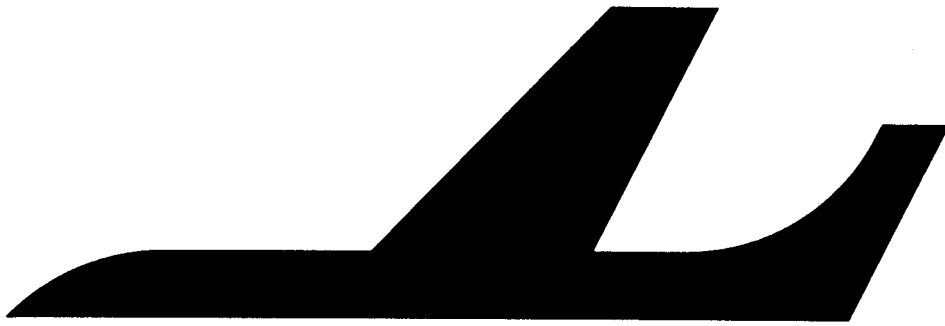
Symbol to denote air/surface container

To denote that a container is an air/surface container with stacking limitations, the symbol depicted below shall be used.

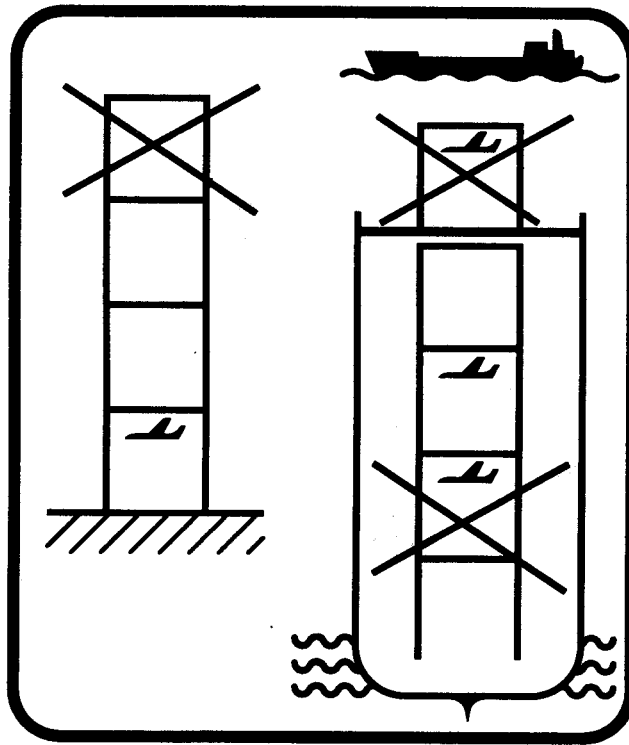
The symbol shall be located in the top left-hand corner of the end walls, side walls and the roof, where appropriate (see ISO 8323).

The aircraft in the symbol shall be at least 130 mm (5 in) high and 360 mm (14 in) long. The stacking symbol shall be at least 280 mm (11 in) high and 260 mm (10 in) wide. The recommended proportions should be used. The capital letters shall be at least 80 mm (3 in) high.

The colour of the symbol should be black. If the colour of the container is such that the symbol does not show clearly, a panel of a suitable colour, preferably white, should be provided as background.



AIR / SURFACE



Annex C (normative)

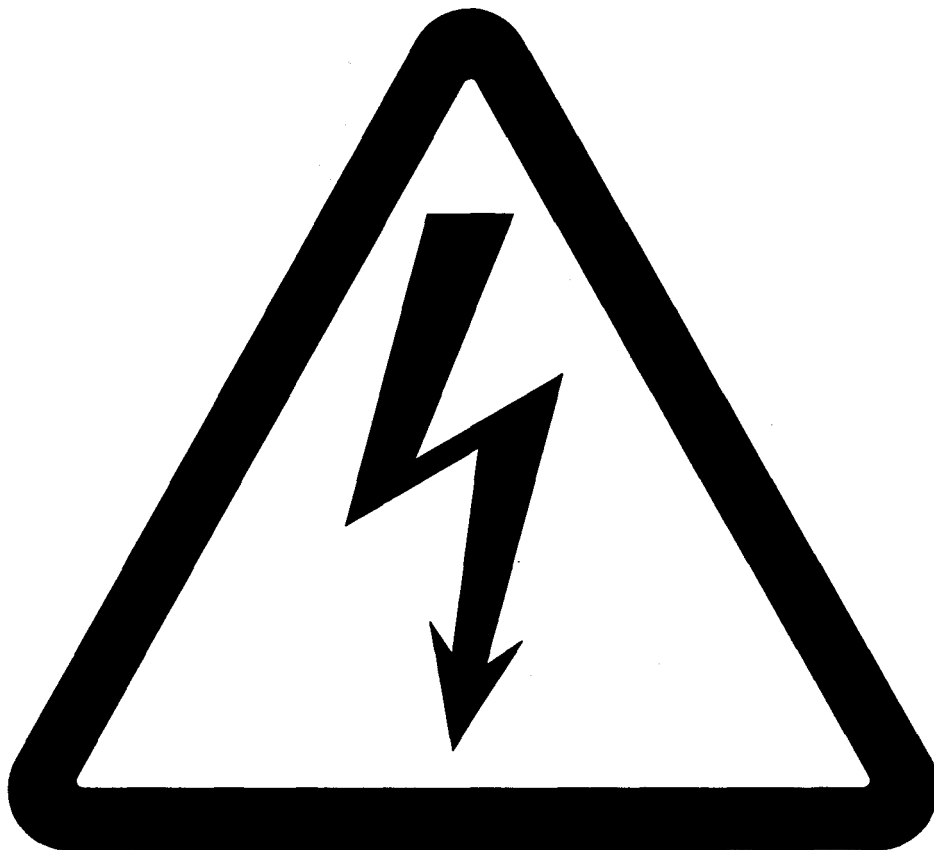
Sign warning of overhead electrical danger

The mandatory sign warning of overhead electrical danger for all containers equipped with ladders shall consist of a black symbol on a yellow background, surrounded by a black border (see example below).

The height of the symbol (lightning flash) shall be a minimum of 175 mm (6,875 in).

The size of the warning sign, measured between the outside edges of the black border, shall be not less than 230 mm (9 in).

The mark shall be located in an area adjacent to the ladder.



Annex D (normative)

Size code designation

The two alphanumeric characters used to designate the size code of a container are chosen as follows:

- first character, representing the length, in accordance with table D.1;
- second character, representing the width and height, in accordance with table D.2.

Table D.1 — First size-code character

| Container length | | Code character |
|------------------|-------|----------------|
| mm | ft in | |
| 2 991 | 10 | 1 |
| 6 068 | 20 | 2 |
| 9 125 | 30 | 3 |
| 12 192 | 40 | 4 |
| Unassigned | | 5 |
| Unassigned | | 6 |
| Unassigned | | 7 |
| Unassigned | | 8 |
| Unassigned | | 9 |
| 7 150 | | A |
| 7 315 | 24 | B |
| 7 430 | 24 6 | C |
| 7 450 | — | D |
| 7 820 | — | E |
| 8 100 | — | F |
| 12 500 | 41 | G |
| 13 106 | 43 | H |
| 13 600 | — | K |
| 13 716 | 45 | L |
| 14 630 | 48 | M |
| 14 935 | 49 | N |
| 16 154 | — | P |
| Unassigned | | R |

Table D.2 — Second size-code character

| Container height | | | Code character | | |
|------------------|-------|----|--------------------|---------------------------------|------------|
| | | | Container width | | |
| mm | ft | in | 2 438 mm (8 ft) | > 2 438 mm and ≤ 2 500 mm | > 2 500 mm |
| 2 438 | 8 | | 0 | | |
| 2 591 | 8 6 | | 2 | C | L |
| 2 743 | 9 | | 4 | D | M |
| 2 895 | 9 6 | | 5 | E | N |
| > 2 895 | > 9 6 | | 6 | F | P |
| 1 295 | 4 3 | | 8 | | |
| ≤ 1 219 | ≤ 4 | | 9 | | |

Annex E
(normative)

Type code designation

E.1 Table E.1 gives the codes to identify the container type and other characteristics related to its type, for the purpose of preparing container fleet/stock inventory or for exchange of operational data.

The detailed type code list does not cover all the possible characteristics of any type of container. Indeed for some types, individual categories have not been listed at all, as it is considered that further detailed study is necessary before a satisfactory breakdown can be agreed.

E.2 Where alternative unassigned code numbers exist and where a code number is desired for a container having important characteristics not mentioned in table E.1, it is recommended that the highest unassigned number in the appropriate block be used, pending further allocation of code numbers by the ISO/TC 104 subcommittees concerned.

E.3 Where other characteristics related to the container type are unspecified or unknown, the container type shall be identified by its group code as indicated in table E.1 in the column "Type group code designation".

Table E.1

| Code | Type designation | Type group code | Main characteristics | Detailed type code |
|------|---|-----------------|---|--------------------|
| G | General purpose container without ventilation | GP | — Opening(s) at one end or both ends | G0 |
| | | | — Passive vents at upper part of cargo space | G1 |
| | | | — Opening(s) at one or both ends plus "full" opening(s) on one or both sides | G2 |
| | | | — Opening(s) at one or both ends plus "partial" opening(s) on one or both sides | G3 |
| | | | — (Unassigned) | G4 |
| | | | — (Unassigned) | G5 |
| | | | — (Unassigned) | G6 |
| | | | — (Unassigned) | G7 |
| | | | — (Unassigned) | G8 |
| | | | — (Unassigned) | G9 |

| Code | Type designation | Type group code | Main characteristics | Detailed type code |
|------|--|-----------------|---|--|
| V | General purpose container with ventilation | VH | <ul style="list-style-type: none"> — Nonmechanical system, vents at lower and upper parts of cargo space — (Unassigned) — Mechanical ventilation system, located internally — (Unassigned) — Mechanical ventilation system, located externally — (Unassigned) — (Unassigned) — (Unassigned) — (Unassigned) | V0 V1 V2 V3 V4 V5 V6 V7 V8 V9 |
| B | Dry bulk container — Nonpressurized, box type — Pressurized | BU BK | — Closed — Airtight — (Unassigned) — Horizontal discharge, test pressure 150 kPa ¹⁾ — Horizontal discharge, test pressure 265 kPa — Tipping discharge, test pressure 150 kPa — Tipping discharge, test pressure 265 kPa — (Unassigned) — (Unassigned) — (Unassigned) | B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 |
| S | Named cargo container | SN | <ul style="list-style-type: none"> — Livestock carrier — Automobile carrier — Live fish carrier — (Unassigned) — (Unassigned) — (Unassigned) — (Unassigned) — (Unassigned) — (Unassigned) — (Unassigned) | S0 S1 S2 S3 S4 S5 S6 S7 S8 S9 |

| Code | Type designation | Type group code | Main characteristics | Detailed type code |
|------|---|-----------------|--|--------------------|
| R | Thermal container | | | |
| | — Refrigerated | RE | — Mechanically refrigerated | R0 |
| | — Refrigerated and heated | RT | — Mechanically refrigerated and heated | R1 |
| | — Self-powered refrigerated/heated | RS | — Mechanically refrigerated | R2 |
| | | | — Mechanically refrigerated and heated | R3 |
| | | | — (Unassigned) | R4 |
| | | | — (Unassigned) | R5 |
| | | | — (Unassigned) | R6 |
| | | | — (Unassigned) | R7 |
| | | | — (Unassigned) | R8 |
| | | | — (Unassigned) | R9 |
| H | Thermal container | | | |
| | — Refrigerated and/or heated with removable equipment | HR | — Refrigerated and/or heated, with removable equipment located externally; heat transfer coefficient $K = 0,4 \text{ W}/(\text{m}^2 \cdot \text{K})$ | H0 |
| | | | — Refrigerated and/or heated with removable equipment located internally | H1 |
| | | | — Refrigerated and/or heated with removable equipment located externally; heat transfer coefficient $K = 0,7 \text{ W}/(\text{m}^2 \cdot \text{K})$ | H2 |
| | | | — (Unassigned) | H3 |
| | | | — (Unassigned) | H4 |
| | — Insulated | HI | — Insulated; heat transfer coefficient $K = 0,4 \text{ W}/(\text{m}^2 \cdot \text{K})$ | H5 |
| | | | — Insulated; heat transfer coefficient $K = 0,7 \text{ W}/(\text{m}^2 \cdot \text{K})$ | H6 |
| | | | — (Unassigned) | H7 |
| | | | — (Unassigned) | H8 |
| | | | — (Unassigned) | H9 |

| Code | Type designation | Type group code | Main characteristics | Detailed type code |
|------|--|----------------------------------|---|--|
| U | Open-top container | UT | <ul style="list-style-type: none"> — Opening(s) at one or both ends — Opening(s) at one or both ends, plus removable top member(s) in end frame(s) — Opening(s) at one or both ends, plus opening(s) on one or both sides — Opening(s) at one or both ends, plus opening(s) on one or both sides plus removable top member(s) in end frame(s) — Opening(s) at one or both ends, plus partial opening on one side and full opening on the other side — Complete, fixed side and end walls (no doors) — (Unassigned) — (Unassigned) — (Unassigned) — (Unassigned) | U0 U1 U2 U3 U4 U5 U6 U7 U8 U9 |
| P | Platform (container) — Platform-based containers with incomplete superstructure: Fixed Folding (collapsible) — Platform-based containers with complete superstructure | PL PF PC PS | — Platform (container) — Two complete and fixed ends — Fixed posts, either free-standing or with removable top member — Folding complete end structure — Folding posts, either free-standing or with removable top member — Open top, open ends (skeletal) — (Unassigned) — (Unassigned) — (Unassigned) — (Unassigned) | P0 P1 P2 P3 P4 P5 P6 P7 P8 P9 |

| Code | Type designation | Type group code | Main characteristics | Detailed type code |
|---|---|-----------------|---|--------------------|
| T | Tank container — For nondangerous liquids — For dangerous liquids — For gases | TN | — Minimum pressure 45 kPa ¹⁾ | T0 |
| | | | — Minimum pressure 150 kPa | T1 |
| | | | — Minimum pressure 265 kPa | T2 |
| | | TD | — Minimum pressure 150 kPa | T3 |
| | | | — Minimum pressure 265 kPa | T4 |
| | | | — Minimum pressure 400 kPa | T5 |
| | | | — Minimum pressure 600 kPa | T6 |
| | | TG | — Minimum pressure 910 kPa | T7 |
| | | | — Minimum pressure 2 200 kPa | T8 |
| | | | — Minimum pressure (to be decided) | T9 |
| A | Air/surface container | AS | | A0 |
| 1) 100 kPa = 1 bar = 10 ⁵ Pa = 10 ⁵ N/m ² = 14,5 lbf/in ² | | | | |

Annex F (normative)

Height marks for containers higher than 2,6 m (8 ft 6 in)

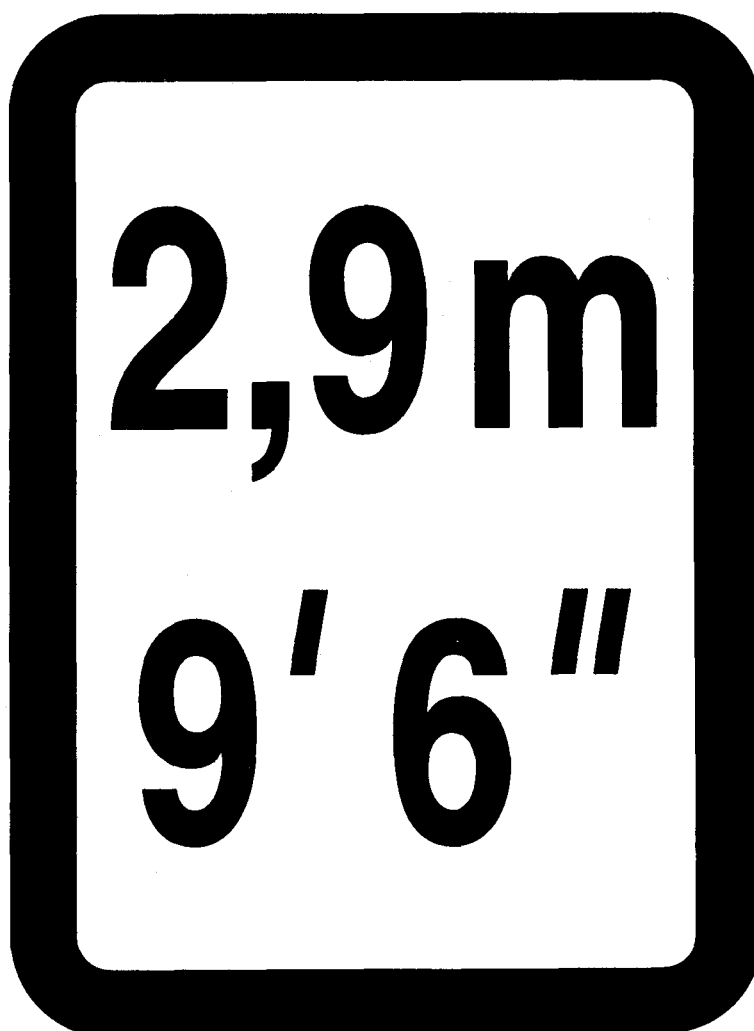
Mandatory height marks for containers higher than 2,6 m (8 ft 6 in) shall consist of sets of black figures on a yellow background, surrounded by a black border (see example below).

The upper set of figures shall give the height, in metres, to one decimal place (0,1 m), but shall not indicate less than the actual height.

The lower set of figures shall give the height, in feet, to the nearest inch, but shall not indicate less than the actual height. To save space, the symbols ' and " are used instead of ft and in, respectively, for feet and inches.

The size of the mark measured between the outside edges of the black border shall be not less than 155 mm × 115 mm (6 in × 4,5 in), and the size of the figures shall be as large as possible, consistent with the need for clarity.

The mark shall be displayed in two places on each container, i.e. near the right-hand edge of each side, at a distance of no more than 1,2 m (4 ft) from the top of the container and within a distance of 0,6 m (2 ft) from the right-hand edge, below the identification number of the container.



Annex G (informative)

National registration organizations affiliated with the International Container Bureau

The international body for the registration of freight containers is the International Container Bureau (BIC):

Bureau International des Conteneurs
167, rue de Courcelles
75017 Paris
FRANCE

National registration organizations shall be appointed by the BIC after consultation with the concerned national ISO member body.

National ISO member bodies will advise would-be registrants to register "U", "J" and "Z" codes with BIC.

Regarding non-ISO containers and container-related equipment that will not move internationally, owners of such equipment are requested to register with BIC. If such owners choose to register with other national bodies, the national bodies involved are urged not to

register four-letter codes ending with "U" or "J" or "Z" for these owners.

While the actual registration process will be performed by BIC, the overall responsibility for owner's code assignments in accordance with ISO 6346 rests with ISO Technical Committee 104.

In order to facilitate ISO's discharge of this responsibility, BIC shall make an annual written report to ISO Technical Committee 104, detailing all owners' codes ending with "U", "J" and "Z" that have been issued, reassigned or cancelled during the preceding calendar year.

For this purpose, BIC issues and distributes an annual publication listing BIC container codes, which is the *Official Register of Internationally Protected ISO Alphacodes for Identification of Container Owners*.

A list of national container registration organizations valid at the time of publication of this International Standard is given in table G.1.

Table G.1 — National registration organizations (NROs)

| Organization | Address | Country |
|--|--|----------------|
| South African Bureau of Standards (SABS) | 1 Dr Lategan Road, Groenkloof, Private Bag X191, Pretoria 0001 | South Africa |
| Studiengesellschaft für den Kombinierten Verkehr (SGKV) | Börsenplatz 1, 60313 Frankfurt | Germany |
| INTRACON CEDEX | Atlasvej 3, 8270 Højbjerg | Denmark |
| Asociación Española de Normalización y Certificación (AENOR) | Fernández de la Hoz 52, 28010 Madrid | Spain |
| Association française de normalisation (AFNOR) | Tour Europe, 92049 Paris La Défense Cedex | France |
| Lloyd's Register Industrial Services | Lloyd's Register House, 29 Wellesley Road, Croydon CRO 2AJ | United Kingdom |
| Container Affairs Bureau Ltd. | 9/F, Unit B, 77-81 Container Port Road, Kwai Chung N.T., Hong Kong | Hong Kong |
| Institute for Industrial Research and Standards Division | Ballymun Road, Dublin 9 | Ireland |
| Standards Institution of Israel (SII) | 42 Chaim Levanon Street, Tel Aviv 69977 | Israel |
| Centro Italiano Studi Containers (CISCO) | Via Garibaldi 4, Genoa 16124 | Italy |
| Arrow Technical Services | 1-B Quaker Ridge Road, Suite 123, New Rochelle, NY 10804-2807, USA | Mexico |
| Japan Container Association | Room 501, Yaesu-Mitsui Bldg., 2-7-2 Yaesu, Chuo-Ku, Tokyo | Japan |
| Scheepvaart Vereniging Noord | Havegebouw, de Ruytershade 7, 1013 AA Amsterdam | Netherlands |
| Arrow Technical Services | 1-B Quaker Ridge Road, Suite 123, New Rochelle, NY 10804-2807 | USA |
| Jugoslovenska Zajednica za Paletizaciju | Kralja Milutina 13, Belgrade | Yugoslavia |

(Continued from second cover)

| <i>International Standard</i> | <i>Corresponding Indian Standard</i> | <i>Degree of Equivalence</i> |
|-------------------------------|--|------------------------------|
| ISO 8323 : 1985 | IS 7917 : 1984 Freight containers — Air/surface (intermodal) — General purpose containers — Specification and tests (<i>first revision</i>) | Identical |
| ISO 10374 : 1991 | IS 13699 : 1993 Freight containers — Automatic identification | do |

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Amendments Issued Since Publication

| Amend No. | Date of Issue | Text Affected |
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